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Class : X

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Practice 1

1. Make a circuit of image and edit the everything properties of component as showed of table.

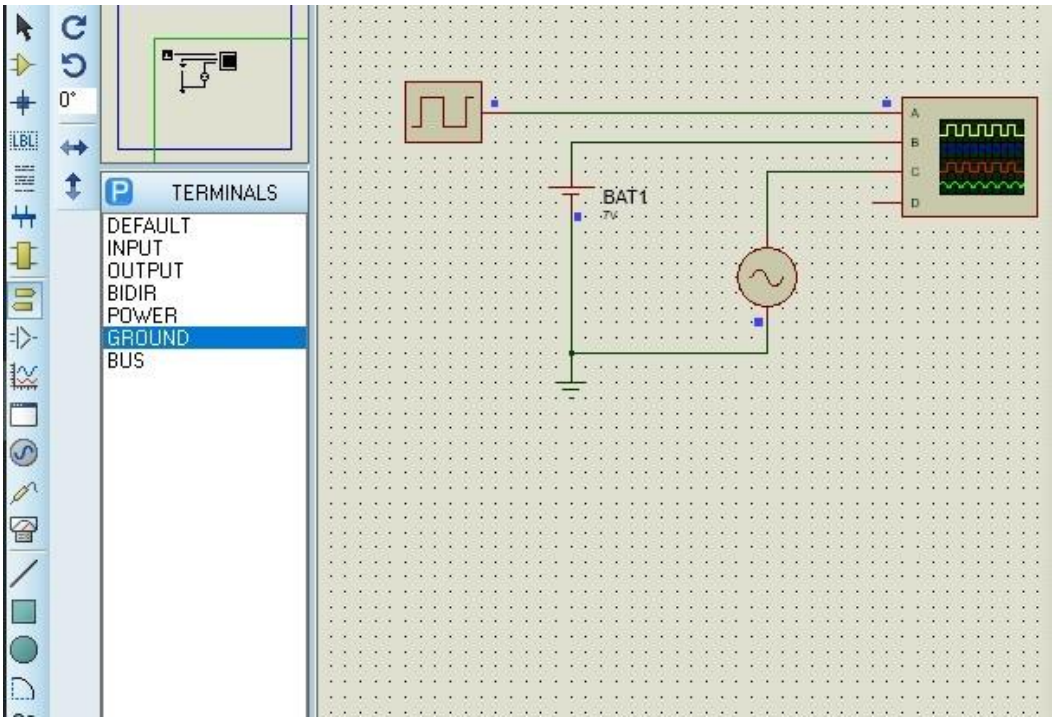
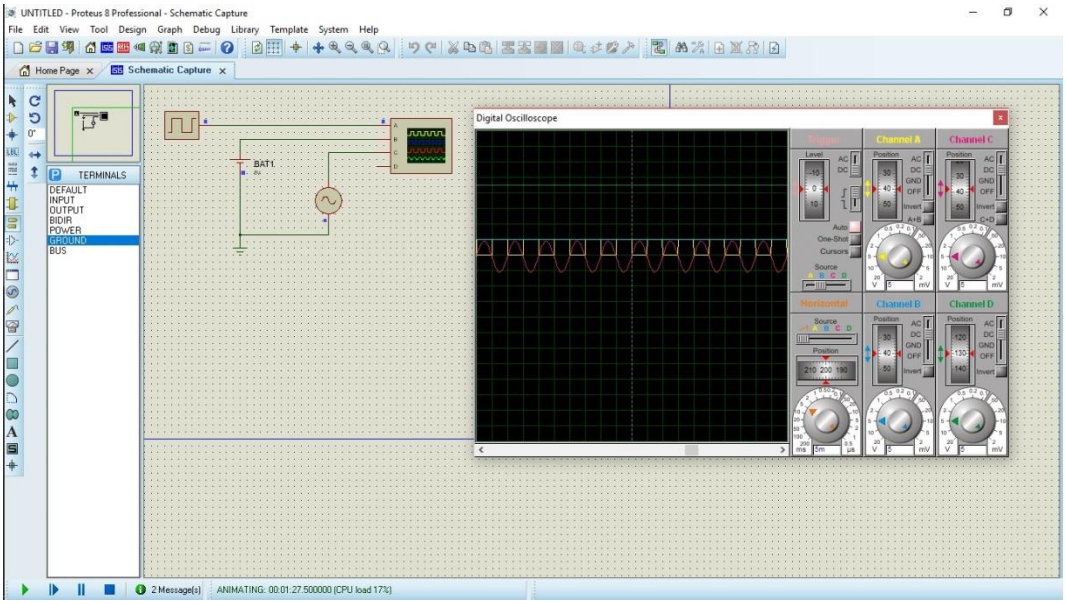


Table 1. component of circuit

No	Device	Information
1	Alternator	V = 5 Volt, f = 100 Hz
2	Cell	V = 5 Volt
3	Clock	F = 100 Hz
4	Ground	Pick from Terminals
5	Osiloskop	Pick from Instrument

2. The simulation will show to us a signal line from batre,clock and alternator.



And explain it !

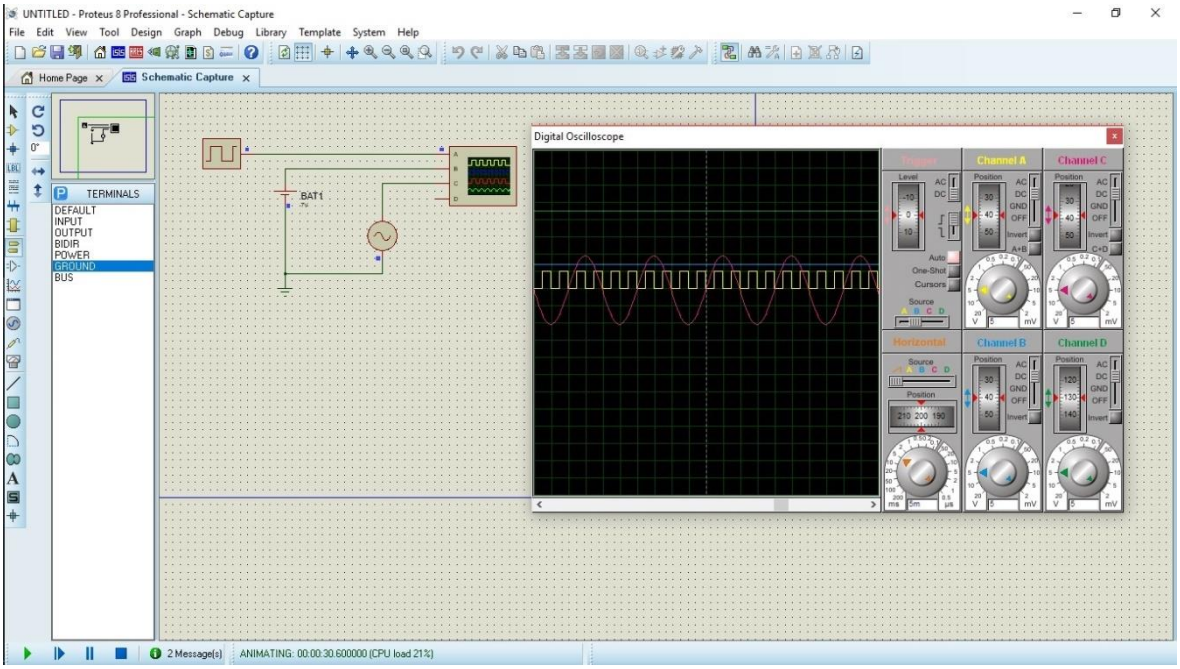
→Channel A is ***clock,*** the shapeof channel A is square.it is analog signal. Channel B is ***Cell,*** the shape of channel B is line,it is digital signal. Channel C is Alternator,the shape of channel C is warped,it is analog signal. The channel D is nothing.

3. Turn off that simulation ! then edit your component as table 2.

Table 2. Propertiese component

No	Device	Information
1	Alternator	V = 10 Volt, f = 50 Hz
2	Cell	V = 7 Volt
3	Clock	F = 200 Hz

4. Run the simulation !



And explain it !

→Trigger on source B, Channel A is square,the length of A is 1,5. Channel B is line, channel C is warped,it is so big size.

5. Answer The Questions !
   a. What is the different between analog signal and digital !

      The shape for analog is line, and digital is square/warped

   b. How about the signal characteristic of every component !

      1. Signal by Alternator :
         →Analog, warped shape
      2. Signal by Batery :
         →Analog, line shape
      3. Signal by clock source :
         →Digital, square shape

   c. Make the conclusion from your observation of kind exercise of signal.
      →If the shape is square, it is digital.if the shape is line and warped,it is analog signal.

Practice 2

1. Make a circuit Proteus 8 simulation on this image.

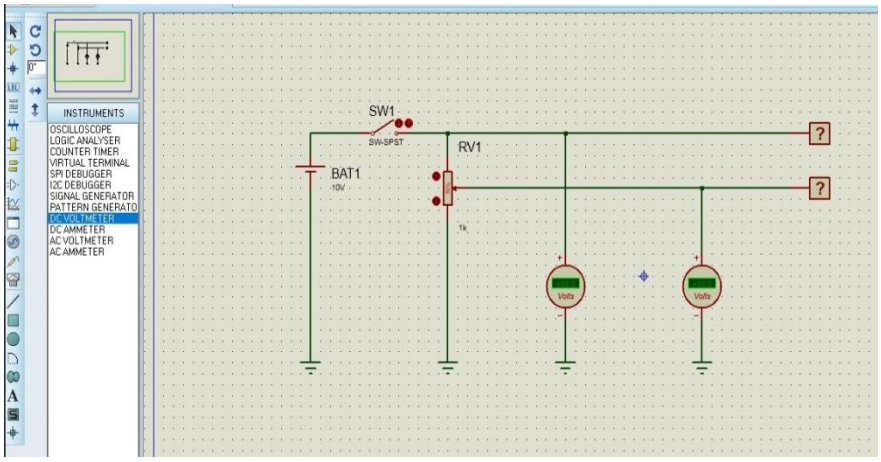
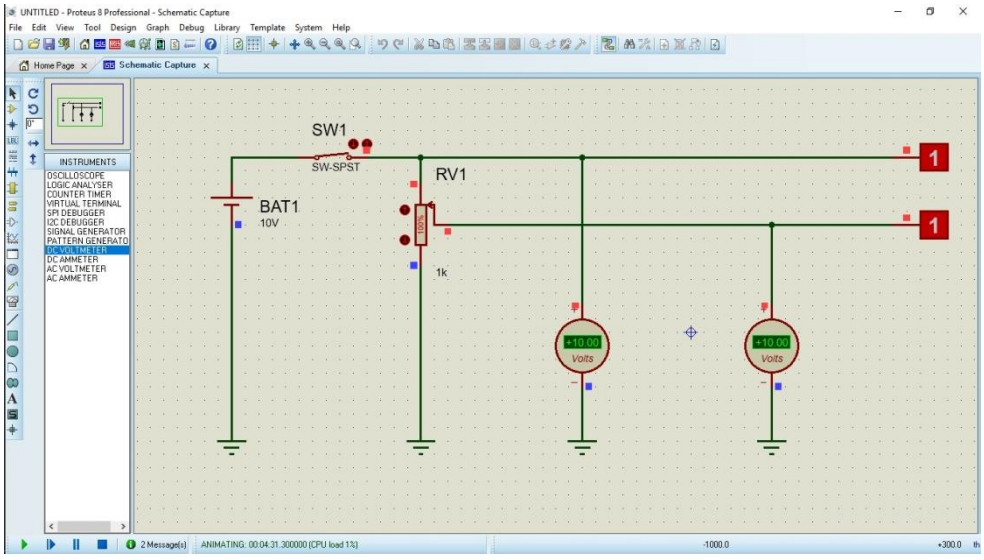


Table 3.component for circuit.

No	Device	Information
1	Cell	Edit to 10 volt
2	SW-SPT	
3	POT-HG	
4	Logicprobe	
5	Ground	Pick from Terminals
6	DC Voltmeter	Pick from Instrument

2. Run that simulation as image!



3. Click SW1 ! in your simulation, answer the question !
   a. Voltmeter DC 1 : <u>+10.00 Volt</u>

b. Voltmeter DC 2 : +5.00 Volt
c. Logicprobe 1 show logic condition : 1
d. Logicprobe 2 show logic condition : 1

4. Click RV1 component (Resistor Variabel/POT-HG) up and down ! and then answer the question !
   a. Logicprobe 2 show logic condition 1(**HIGH**)
      If Voltmeter DC 2 : +5.00 Volts until +10.00 Volts
   b. Logicprobe 2 menunjukan kondisi logika 0 (Low)
      If Voltmeter DC 2 : +00.00 Volts until +02.00 Volts

5. Make a conclusion based of your analys in range signal digital exercise !
   ➔ If voltmeter DC 1 is high until +10.00,the value of logicprobe is 1. And if the Voltmeter is low until +00.00 until +02.00 the value of logicprobe is 0.